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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,992	01/16/2002	Mitsuru Uesugi	L9289.02101	9109

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STEVENS DAVIS MILLER & MOSHER, LLP
1615 L STREET, NW
SUITE 850
WASHINGTON, DC 20036

EXAMINER	
ROBERTS, BRIAN S	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/030,992	UESUGI ET AL.	
	Examiner	Art Unit	
	Brian Roberts	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-21 and 23-25* is/are rejected.

7)☒ Claim(s) *22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 1/26/2006 is acknowledged.
- Claims 1-13 have been cancelled.
- Claims 14-25 have been added.
- Claims 14-25 remain pending.

Claim Objections

1. Claims 19 and 20 are objected to because of the following informalities:

- On the last line of claims 19 and 20, "this data" should read "the data".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 14, 16-18, 21, and 23-25 are rejected under 35 U.S.C. 102(a) as being anticipated by "Optimization of an Adaptive Link Control Protocol for Multimedia Packet Radio Networks" by J.R. McChesney and R.J. Saulitis, hereafter, McChesney et al.

- In reference to claim 14, 23-25

In Figure 3, McChesney et al. teaches

- A destination radio estimates the channel quality of a communication link upon receiving a message packet from a source radio. The destination radio transmits the channel quality measurements to the source radio in a NACK if there is an error. A plurality of NACK packets containing the channel quality measurements are transmitted if the destination radio receives a plurality of packets from the source radio containing errors (pg. 263, column 2, paragraph 3)
- The source radio receives the NACK and learns the value of the channel quality information (demodulation capacity and traffic conditions). The source radio utilizes the channel quality information (demodulation capacity and traffic conditions) to determine the power level and information rate (capacity for data retransmission) for the next transmission to the destination radio. (pg. 263, column 2, paragraph 3)

- In reference to claim 16

In Figure 4, McChesney et al. further teaches the source radio adapting the power level and information rate according to such parameters as the SNR, BER, number of tracked paths, PDSQ, interference on the channel, communication range, traffic load variance, and radio electrical performance to a optimize the retransmission of the data. (pg. 263, column 2 paragraph 1 – pg. 264, column 1, paragraph 2)

- In reference to claim 17 and 18

In Figure 3, McChesney et al. further teaches the source radio pre-assigning transmission parameter in the LLC Table and utilizing the parameters to transmit data until the destination radio transmits an ACK or NACK that includes the quality measurements. The source radio updates the transmission parameters and transmits the next data utilizing the updated transmission parameters.

- In reference to claim 21

In Figures 1 and 4, McChesney et al. further teaches an adaptive link control protocol that selects a set of physical and link communication parameters that minimize transmit energy while providing reliable point-to-point communications as a function of traffic types, packet lengths, and channel conditions. McChesney et al. further teaches adjusting the IF SNR, PDSQ, number of tracked paths, and BER to optimize the transmission parameters according to the measured channel quality.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 15 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Optimization of an Adaptive Link Control Protocol for Multimedia Packet Radio Networks" by J.R. McChesney and R.J. Saulitis, hereafter, McChesney et al.

- In reference to claim 15

McChesney et al. teaches a system and method that covers substantially all limitations of the parent claims. McChesney et al. further teaches that the source radio utilizes the channel quality information to determine the power level and information rate for the next transmission to the destination radio. (pg. 263, column 2, paragraph 3)

McChesney et al. does not explicitly teach retransmitting the data at a maximum transmission capacity if the capacity necessary for demodulation is greater than the maximum transmission capacity.

In Figure 4, McChesney et al. teaches adapting the power level and information rate according to such parameters as the SNR, BER, number of tracked paths, PDSQ, interference on the channel, communication range, traffic load variance, and radio electrical performance to a optimize the throughput efficiency and throughput rate. (pg. 263, column 2 paragraph 1 – pg. 264, column 1, paragraph 2)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the system and method of McChesney et al. to include the source radio transmitting the packets at the maximum transmission rate according the channel quality information communicated to the source radio by the destination radio and because it allows the optimization of the throughput efficiency and throughput rate within the system.

- In reference to claim 19-20

McChesney et al. teaches a system and method that covers substantially all limitations of the parent claims.

McChesney et al. does not explicitly teach all retransmissions or a predetermined number of retransmissions of particular data received in error are transmitted at a capacity based on the measured reception quality of the original transmission of this data.

McChesney et al. teaches utilizing channel quality measurements included in the ACKs and NACKs resulting from N_A previous packet transmission attempts to the given destination radio. If more than T_d seconds have elapsed since the last NACK was received, the available channel quality measurements form the previous transmission attempts are considered out-of date and are discarded. (pg. 263 column 1 paragraph 4)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the system and method of McChesney et al. to include adjusting the values of N_A and T_d so that all retransmissions or a predetermined number of retransmissions of data that was received in error is transmitted at a the power level and information rate (capacity) based on the measured channel quality (reception quality) of the original transmission of the data in order to control when the channel quality measurements are considered out-of-date and are discarded.

Allowable Subject Matter

6. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- In reference to claim 22

Claim 22 would be allowed because the prior record fails to teach or fairly suggest that the total number of reception quality measures that may differentiate the plurality of retransmission request signals is a number one less than a power of two.

Response to Arguments

7. Applicant's arguments with respect to claims 14 and 23-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Roberts whose telephone number is (571) 272-3095. The examiner can normally be reached on M-F 10:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BSR
04/10/2006

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600